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## Range expansion of *Apatura iris* (Linnaeus, 1758) in Siberia (Lepidoptera: Nymphalidae)

R. V. Yakovlev & A. E. Kostyunin

### Abstract

Strong contraction of disjunction of eastern and western parts of *Apatura iris* (Linnaeus, 1758) distribution area has been observed the last years. The species is reported from Kemerovo region (Siberia, Russia) for the first time.

KEY WORDS: Lepidoptera, Nymphalidae, *Apatura iris*, Siberia, Russia.

### Alcance de expansión de *Apatura iris* (Linnaeus, 1758) en Siberia (Lepidoptera: Nymphalidae)

### Resumen

En los últimos años se ha producido una fuerte reducción de la distancia entre las partes occidental y oriental de las zonas de distribución de *Apatura iris* (Linnaeus, 1758). La especie se cita por primera vez en la región de Kemerovo (Siberia, Rusia).

PALABRAS CLAVE: Lepidoptera, Nymphalidae, *Apatura iris*, Siberia, Rusia.

*Apatura iris* (Linnaeus, 1758) is a widely distributed species with a classic disjunct amphypalaearctic area. The species is trophically connected with the genus *Salix* L. (Salicaceae). The nominate subspecies occurs in the western part of the distribution area; it is distributed from the northern part of the Iberian Peninsula and southern England, eastwards through central Europe, northern Italy, Denmark, southern Finland, the Balkans and SW Greece, Ukraine, central and southern parts of European Russia, western Siberia and NW Kazakhstan. The eastern subspecies *Apatura iris amurensis* Stichel, 1908 (type locality - Amur-gebiet) and *A. iris recidiva* Fruhstorfer, 1913 (type locality - Thibet, Southern and Central China) are distributed from Transbaicalia to Amur, Ussuri, Korea and NE, central and SW China (MASUI *et al.*, 2011).

The easternmost points of *A. iris iris* distribution (Linnaeus, 1758) were until the end of the XX century a range of localities in the Tumen region of Russia (Nizhnyaya Tavda, Yarkovo, Tobolsk and Tyumen districts) (SITNIKOV, 1992; LUKHTANOV & LUKHTANOV, 1994; KORSHUNOV & GORBUNOV, 1995; DUBATOLOV & KOSTERIN, 2000; TUZOV *et al.*, 2000; GORBUNOV, 2001; KORSHUNOV, 2002).

A strong contraction of the distance between the eastern and western parts of *Apatura iris* (Linnaeus, 1758) distribution area has been observed over the last years. Both the change of the eastern edge of distribution of the nominate (western) subspecies and the western edge of the north-eastern subspecies *Apatura iris amurensis* Stichel, 1908 are to be noted. In Kazakhstan, *A. iris iris* is found

only in the valley of the Ural river (ZHDANKO, 2005). Since the beginning of the XXI century the nominate subspecies began to be noted more to the east. Over the last 12 years it has been reported from several of localities in the Omsk region (Muromtsevo and Bolsheukovo districts) (KNYAZEVA & KOSTERIN, 2003; KNYAZEVA, 2009), the Tomsk Region (Bakcharskoe district and Emelich river Valley, on the road Koenga-Kedrovyy) (KOSTERIN *et al.*, 2007), the Novosibirsk Region (near Kabinetnoe vill., Maslyanino and Toguchin districts, and Akademgorodok) (IVONIN, KOSTERIN & NIKOLAEV, 2013; YAKOVLEV *et al.*, 2014) and Altai Krai (Zarinsk district, near Tyagun village) (YAKOVLEV *et al.*, 2014). In 2010 - 2012 *A. iris iris* was also collected in two points of Kemerovo Oblast'. The specimens have the following labels: 3 males, Russia, Kemerovo reg., Krapivino distr., 8 km SW Saltymakovo, N 54° 45'; E 87° 01', H-150 m, 7-VII-2012, leg. A. Kostyunin (Siberian Zoological Museum, Novosibirsk, Zoological museum of Kemerovo State University). One of the three specimens is shown in Fig. 1. 1 male, Kemerovo reg., 25 km N Kemerovo, near Podjakovo vill., N 55° 33'; E 85° 49', H -70 m, 1-11-VII-2010 (Zoological museum of Kemerovo State University).

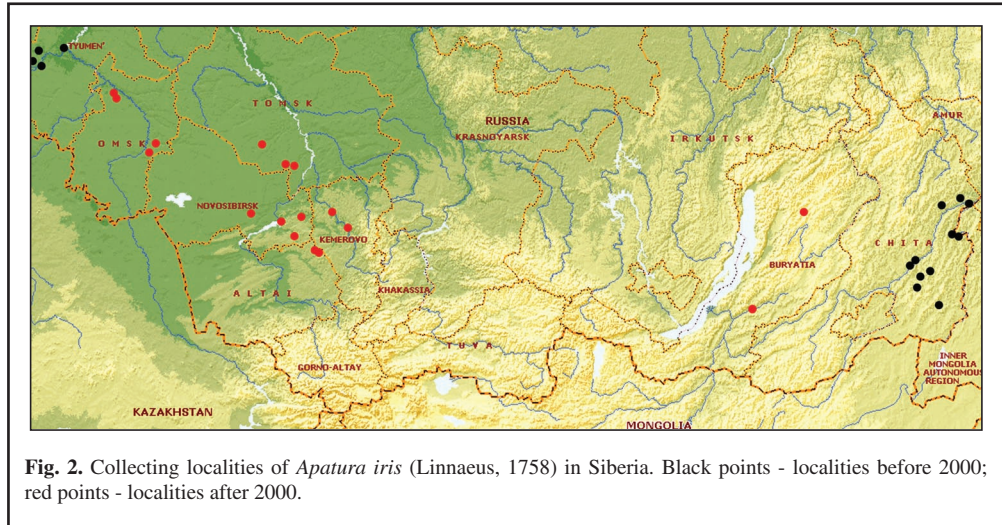


**Fig. 1.** *Apatura iris iris* (Linnaeus, 1758), male, Russia, Kemerovo reg., Krapivino distr., 8 km SW Saltymakovo, N54° 45'; E87° 01', H-150 m, 7-VII-2012, leg. A. Kostyunin (Siberian Zoological Museum, Novosibirsk).

The same trends in the advance of the eastern subspecies *A. iris amurensis* to the west could be noted also. Distribution of the subspecies in Eastern Transbaikalia (on the territory of Chita region) was

minutely described in a range of papers (MOLTRECHT, 1929; KURENTZOV, 1950; SERGEEV, 1988; DUBATOLOV & KOSTERIN, 1999; TSHIKOLOVETS, BIDZILYA & GOLOVUSHKIN, 2002; KORSUN & GORDEEV, 2002). More towards the East (in Buryatia: 40 km E of Ulan-Ude, Uda River Valley) the species was noted after 2005 (GORDEEV & RUDYKH, 2007). The photo of *A. iris* from Bauntovo distr., Severnyi village was shown by photographer Viktor Bayandin (2013) on the site macroid.ru.

The dynamics of extension of the distribution area of *Apatura iris* leads to a nearly 50% contraction of the disjunction between the eastern and western parts of the areal (fig. 2).



**Fig. 2.** Collecting localities of *Apatura iris* (Linnaeus, 1758) in Siberia. Black points - localities before 2000; red points - localities after 2000.

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